we require with respect to DS3 loops. Specifically, the higher business line threshold accounts for the smaller revenue opportunities afforded by DS1 loops and the importance of ensuring a substantially greater likelihood of the actual or foreseeable presence of DS3- or higher-capacity facilities available for channelization. Equally important, the presence of a higher number of business lines served by a wire center indicates that there are likely to be correspondingly higher revenue opportunities within the buildings in the wire center service area, suggesting the strong likelihood that there are more extensive competitive fiber rings and DS3- or higher-capacity laterals or their intermodal equivalents. Moreover, the two factors are mutually reinforcing, as the record data show that increasing the requisite number of business lines typically increases the number of fiber-based collocations found in wire centers. As indicated below, although our proxies do not expressly require a greater number of fiber-based collocators in the case of DS1 loops than we require with regard to DS3 loops, those wire centers in which we find no impairment without unbundled access to DS1 loops in fact exhibit substantially more fiber-based collocators as well. In these cases, we believe that competitive LECs likely will be able to use capacity on existing DS3- and higher-capacity facilities, or will construct very short laterals for other reasons, to allow the pervasive provisioning of DS1-capacity services if they so choose, and are therefore not impaired without access to unbundled high-capacity loops at the DS1 capacity or above.

173. Indeed, we expect that if the revenue opportunities are great enough, there will be several competitors in a building that have independently deployed fiber capable of being channelized into various loop capacities, and that competitors will offer use of these facilities – to the extent they have excess capacity – on a wholesale basis. Once a carrier has justified the costs of deploying its own loop, our "reasonably efficient competitor" standard leads us to expect that that competitor will seek all possible revenue opportunities available, including those available from wholesaling capacity.[474] In such buildings, a competitive provider – unlike a monopolist – would have incentives to offer service at rates based on its own costs (including a reasonable, but not supracompetitive, profit). The presence of such wholesale alternatives at such rates would provide a market-based alternative to reliance on the incumbent LEC's facilities, and, for that reason as well, competitors with access to such alternatives could not be said to be impaired without access to UNEs.[475]

a. DS3-Capacity Loops

174. Based on the economic analysis described above, we adopt a proxy test that does not unbundle DS3 loops in any building served by a wire center with at least 38,000 business lines and four fiber-based collocators.[476] This test denies unbundling of DS3 loops on the basis of our inferences about correlations between wire center service areas with a significant number of business lines and existing

[474] *See, e.g., Broadband 271 Forbearance Order* at para. 26 (discussing likelihood of BOCs offering wholesale access to keep traffic on-net in response to facilities-based competition).

[475] *See Triennial Review Order*, 18 FCC Rcd at 17177, para. 330 (discussing disincentive for competitive LECs to compete against incumbent LEC UNEs priced at TELRIC for a significant period of time). In other wire center service areas, where we do not grant unbundling relief, we do not expect that the elimination of high-capacity loop UNEs would significantly encourage wholesaling, given that there is not, and is not expected to be, the same level of competitively deployed fiber to offer at wholesale. In those areas, where competitive deployment is uneconomic, the premature elimination of DS1 or DS3 loop UNEs could discourage competitive fiber deployment that otherwise might occur where revenue opportunities can be appropriately aggregated using UNEs and form a foundation for future competitive loop deployment.

[476] As described below, we also limit unbundling to a single DS3 loop per location. *See infra* para. 177.

fiber facilities and the high-density business districts where competitors can construct stand-alone DS3 loops.[477] We have selected these thresholds because we find they indicate fiber deployment and revenue opportunities sufficient to render competitive deployment of DS3 loops economic. For example, the record indicates that wire centers satisfying these thresholds have an average of ten fiber-based collocators each, and that 75 percent of these wire centers have six or more fiber-based collocators.[478] These figures indicate that competitors are likely to have deployed extensive fiber in such wire centers' service areas, resulting in more splice points located throughout the wire center serving area and therefore shorter distances between buildings within that service area and splice points on those rings. This proximity will generally reduce the costs associated with deployment of competitive laterals. In contrast, more than 80 percent of the wire centers that do not meet our DS3 threshold have zero fiber-based collocators.[479] It is therefore unlikely that the buildings within these non-qualifying wire centers' serving areas will be sufficiently close to splice points along competitive fiber rings to permit construction of short fiber laterals.

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[477] Specifically, based on the data in the record, this rule will eliminate unbundled DS3 loops in wire centers accounting for approximately 14% of BOC business lines. *See generally* Qwest Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; Verizon Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; SBC Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; BellSouth Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; BellSouth Dec. 10, 2004 Reynolds *Ex Parte* Letter; SBC Dec. 10, 2004 Benison *Ex Parte* Letter. Despite our concerns about the incumbent LEC special access data, we note that even those data indicate that most competitive activity is focused in a limited percentage of wire centers. To put this figure in context, we note that Verizon maintains that nearly 80% of the demand for special access services is concentrated in 8% of its wire centers. *See, e.g.*, Verizon Comments at 36-38 (observing that demand for high-capacity services are highly concentrated in wire centers in the largest metropolitan areas and, within those wire center serving areas, demand is further concentrated in large office buildings and business parks, and that competitor with fiber networks target the buildings where demand is concentrated); Verizon Reply at 71 (stating that because "special access demand as a whole, as well as the specific demand for DSIs and DS3s, is highly concentrated, customers will largely be in the same areas where competing carriers have already deployed facilities"); Verizon June 24, 2004 *Ex Parte* Letter, Attach. at 4 and Exh. 5 (providing maps of special access demand and competitive fiber deployment that "show the strong correlation between the presence of competitive fiber and the offices in which demand is concentrated"); *see also* SBC Aug. 18, 2004 *Ex Parte* Letter, Attach. (submitting maps of showing competitive fiber deployment and special access usage for selected cities); BellSouth Oct. 1, 2004 Reynolds *Ex Parte* Letter, Attach. (same). Consequently, even if we relied on tariffed incumbent LEC services to evaluate impairment in the relevant markets (which, for reasons described above, *see supra* Part IV.D, we do not), we anticipate that such data likely would lead us to identify many of the same wire center service areas that we identify here as areas where competitive LECs are not impaired. Specifically, the analysis we adopt here denies unbundling in wire center service areas exhibiting high potential revenues – the same wire centers, according to the BOCs' advocacy, most likely to offer tariffed alternatives to competitive LECs.

[478] Qwest Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; Verizon Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; SBC Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; BellSouth Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; BellSouth Dec. 10, 2004 Reynolds *Ex Parte* Letter; SBC Dec. 10, 2004 Benison *Ex Parte* Letter.

[479] The thresholds we have selected in this Order reflect the record compiled in this proceeding. We recognize that particular relationships between factors such as business line counts and fiber-based collocation may change over time. For example, if incumbent LECs lose lines to facilities-based competitors, their business line counts might decrease. We note, however, that the Commission will be able to account for such shifts should they transpire. *See, e.g., Triennial Review Order*, 18 FCC Rcd at 17408, para. 710 (explaining that the biennial review procedure prescribed by section 11 of the Act affords the Commission sufficient flexibility to modify its regulatory regime when warranted). Moreover, the incumbent LECs have themselves supported our use of static line count thresholds, presumably recognizing that our regime is subject to later modification when circumstances warrant. *See, e.g., supra* note 465.

175. Moreover, our record shows that wire centers satisfying our criteria serve, on average, over 65,000 business lines each, and 75 percent of them serve at least 46,000 business lines, indicating high revenue opportunities and thus the likelihood that carriers can feasibly provide services using competitive DS3 facilities.[480] The presence of a high number of business lines – and the associated revenue opportunities – increases the likelihood of competitive fiber rings in the wire center serving area, and thus the likelihood that there will be many splice points along competitively provisioned fiber rings from which a requesting carrier could construct a short lateral. In contrast, wire centers not meeting the criteria serve an average of fewer than 4,500 business lines each, with 75 percent serving fewer that 5,119 business lines, which suggests a lower likelihood that the costs of constructing a lateral from a splice point to a building within the wire center serving area could be justified.[481]

176. Finally, we believe that a more restrictive test would deny requesting carriers access to incumbent LEC facilities in cases where they face impairment. We note that we have declined to unbundle high-capacity loops only in wire centers that we have designated as "Tier 1" for purposes of our dedicated transport analysis, and even then only in a limited subclass of Tier 1 wire centers (because we require 38,000 business lines *and* four fiber-based collocators here, but only one or the other in the dedicated transport context). Moreover, whereas the presence of four (or even ten or more) fiber-based collocators indicates the strong prospect of competitive entry with regard to transport, even a very high number of fiber-based collocations will *not* necessarily ensure that fiber-optic facilities are deployed throughout a wire center. For this reason, a test that further narrowed requesting carriers' access to unbundled high-capacity loops would more likely prohibit unbundling in cases where the distances between splice points on competitive rings and buildings that competitors seek to serve are too large, and the costs of deploying loops to those buildings too high, for competitors to justify construction of DS3 loops. By requiring a high number of business lines and at least four fiber-based collocations, our criteria increase the likelihood that such laterals can be constructed on an economic basis. In this manner, we refrain from requiring excessive unbundling in areas where DS3 loops can likely be deployed economically while ensuring unbundled access where they cannot.

177. *Limitation on Multiple Unbundled DS3-Capacity Loops.* Notwithstanding the analysis above, we emphasize that requesting carriers are not impaired without access to high-capacity loops where they seek to serve the same end-user location at a capacity sufficient to justify construction of a facility that we have deemed suitable for self-deployment. Based on the evidence in the record, we find that it is generally feasible for a carrier to self-deploy its own high-capacity loops when demand nears two DS3s of capacity to a particular location.[482] Therefore, even where our test requires DS3 loop unbundling, we limit the number of unbundled DS3s that a competitive LEC can obtain at each building to a single DS3 to encourage facilities-based deployment when such competitive deployment is economic.[483]

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[480] *See supra* note 465.

[481] *Id.*

[482] *See* SBC Comments at 5 (showing that multiple competitive LECs have self-deployed a number of loops at the 2 DS3 level and above); BOC UNE Fact Report 2004 at page III-3 & n.8; Time Warner Telecom Dec. 1, 2004 *Ex Parte* Letter at 1 (stating that requesting carriers are impaired without unbundled access to single DS3 loops).

[483] We note that our unbundled DS3 loop cap is smaller than the unbundled DS3 transport cap. *See supra* para. 131. The unbundled DS3 loop cap is based on record evidence indicating the feasibility of DS3 loop self-deployment at a two DS3 level. Once a competitive carrier's customer demand exceeds the capacity of a single DS3, the competitive (continued....)

b. DS1-Capacity Loops

178. For DS1-capacity loops, we adopt a proxy test that does not require unbundling in any building served by a wire center with at least 60,000 business lines and at least four fiber-based collocators.[484] We eliminate DS1 loop unbundling in only a subset of those wire centers where we have eliminated DS3 loop unbundling because we recognize that stand-alone DS1 loops offer low revenue opportunities and are thus unlikely to be deployed competitively, but that competitive LECs often can offer DS1-capacity service over existing fiber-optic facilities in place to serve actual or expected higher-capacity customers. Although we conclude, for the purpose of our impairment analysis, that DS3 or higher capacity loops *can* be economically deployed in the areas served by wire centers with at least 38,000 business lines and at least four fiber-based collocators, we conclude they are likely actually to be widely deployed already (and thus available for potential channelization) only in wire centers with greater line counts. We emphasize that we do *not* require – either here or anywhere in this Order – actual deployment of a facility at a particular capacity before finding that carriers are not impaired without access to that facility. Rather, in the case of DS1 loops, we seek a high likelihood of fiber deployment at the *DS3 or higher* capacity before inferring that deployment of facilities to serve *DS1* customers using channelized higher-capacity facilities would be economic, because in the absence of such higher-capacity facilities, channelization at a lower capacity would be impossible.[485]

179. Specifically, we find no impairment for DS1-capacity loops only in those wire center service areas with 60,000 business lines and four fiber-based collocators. These wire centers comprise a select group likely to be characterized by the most competitive deployment and the greatest revenue opportunities. Specifically, based on the data in the record, this rule will eliminate unbundled DS1 loops in wire centers accounting for approximately 8 percent of all BOC business lines.[486] As explained above, however, because these few wire centers account for a disproportionately high percentage of all business lines, they are likely to represent a correspondingly high degree of revenues available nationwide, and a disproportionate number of those in which competitive LECs seek to compete using UNEs.[487]

180. With respect to fiber deployment, we note that wire center service areas meeting the DS1 loop threshold of 60,000 business lines and four or more fiber-based collocators have an average of 13 fiber-based collocators, and 75 percent of these wire centers have 8 or more fiber-based collocators, indicating that there is particularly extensive competitive fiber build-out. Although we recognize that many of these carriers are likely serving only a fraction of the buildings in the wire center service area, such extensive fiber deployment suggests the likelihood of even more extensive fiber ring deployment

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carrier should plan to self-deploy DS3 capacity to that customer location. Because dedicated transport facilities must generally be considerably longer than loops, the construction costs associated with such facilities are generally far higher than the costs associated with loops, and the point at which self-provision becomes economic thus differs. This cost differential justifies a different capacity limitation on transport than on loops. *See Triennial Review Order*, 18 FCC Rcd at 17219, para. 388 n.1203.

[484] As described below, we also limit unbundling to ten DS1 loops per location. *See infra* para. 181.

[485] *See supra* para. 171.

[486] Qwest Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; Verizon Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; SBC Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; BellSouth Dec. 7, 2004 Wire Center Data *Ex Parte* Letter; BellSouth Dec. 10, 2004 Reynolds *Ex Parte* Letter; SBC Dec. 10, 2004 Benison *Ex Parte* Letter.

[487] *See supra* note 477.

than in those wire center service areas for which we have denied unbundled access to DS3 loops, and thus indicates that buildings are likely to be even closer to a ring than buildings in areas served by wire centers with more than 38,000 business lines but fewer than 60,000 business lines. Similarly, wire centers satisfying our criteria serve, on average, over 91,000 business lines each, and 75 percent of them serve at least 70,000 business lines, indicating particularly high revenue opportunities. These factors thus collectively suggest a very high likelihood that competitive LECs within the wire center service area will have deployed or could deploy DS3- or higher-capacity facilities within the wire center serving area, from which competitive LECs could deploy laterals in an economic manner, as well as the likelihood that competitive LECs will offer excess capacity on a wholesale basis. Further, as noted above, in those cases in which competitive deployment of high-capacity loops is not feasible, we note that competitive LECs may still serve specific buildings using tariffed incumbent LEC offerings.[488]

181. *Limitation on Multiple Unbundled DS1-Capacity Loops.* As with DS3 loops, we establish a capacity-based limitation on DS1 loop unbundling to apply where we have otherwise found impairment without access to such loops. Specifically, we establish a cap of ten DS1 loops that each carrier may obtain to a building.[489] The record indicates that a competitor serving a building at the ten DS1 capacity level or higher would find it economic to purchase a single DS3 loop rather than purchasing individual DS1 loops.[490] We therefore do not believe that it would be appropriate to allow requesting carriers to obtain unbundled access to that many DS1 loops. Requesting carriers seeking ten or more unbundled DS1 loops are able to use DS3 loops instead, whether those loops are competitively deployed, or are obtained as UNEs.

4. Dark Fiber Loops

182. Based on the evidence in the record, we find that requesting carriers are not impaired on a nationwide basis without access to unbundled dark fiber loops because the barriers to entry relating to the deployment of dark fiber loops can be overcome through self-deployment of lit facilities at the OCn level.[491] We base this conclusion, in part, on record evidence demonstrating the feasibility of self-

[488] *See supra* para. 163.

[489] We impose a similar cap on the number of DS1 transport circuits that can be purchased by a given competitive LEC on a single route. *See supra* para. 128.

[490] For example, the cost of purchasing a UNE DS3 loop in Florida from BellSouth is 5.21 times that of a UNE DS1 loop ($368.88 to $70.74); in Texas from SBC, the ratio is 8.65 ($665.49); in New York from Verizon, the ratio is 9.6 ($801.75 to $83.50); in Illinois from SBC, the ratio is 5.45 ($335.73 to $61.56); in Washington from Qwest, the ratio is 10.83 ($745.93 to $68.56). XO Tirado Decl., Attach. B. Verizon states that, on average throughout its region, the UNE DS3 loop rate is 8 times the UNE DS1 loop rate. Verizon Dec. 8, 2004 Guyer/Glover *Ex Parte* Letter at 5; *see also* Time Warner Telecom Dec. 1, 2004 *Ex Parte* Letter at 1 n.3 (stating that between 7-9 DS1s at a single location could justify the deployment of a lateral in some markets).

[491] BellSouth Petition for Clarification and/or Partial Reconsideration, CC Docket Nos. 01-338, 96-98, 98-147 at 18-19 (filed Oct. 2, 2003); Verizon Comments, CC Docket Nos. 01-338, 96-98, 98-147 at 27-28 (filed Nov. 6, 2003); *see also* SBC Reply, Joint Decl. of Scott J. Alexander and Rebecca L. Sparks (SBC Alexander/Sparks Reply Decl.) at paras. 17-22 (stating that a number of competitive LECs confirmed their deployment of high-capacity loops in the state proceedings); Verizon June 24, 2004 *Ex Parte* Letter, Exh. 5 (providing maps of competitive fiber deployment); SBC Aug. 18, 2004 *Ex Parte* Letter, Attach. (same); BellSouth Oct. 1, 2004 Reynolds *Ex Parte* Letter, Attach. (same).

deployment of fiber loops at the two DS3 level.[492] Because of the high potential capacity of dark fiber facilities, revenue opportunities associated with dark fiber loops are even greater than those available in relation to two lit DS3 loops at a single location. Carriers seeking to use dark fiber – which is generally lit at capacities of two DS3s or above – are therefore likely able to self-deploy.[493]

183. As explained above, our record indicates that competitive LECs have been able to self-deploy fiber to some buildings.[494] Evidence submitted in the record reflects substantial deployment of competitive fiber loops at OCn capacity and competitive carriers confirm they are often able to economically deploy these facilities to the large enterprise customers that use them.[495] We find this evidence of deployment persuasive in demonstrating that competitive LECs can often overcome the barriers associated with fiber loop deployment. Specifically, we have above limited requesting carriers to a single lit DS3 loop per location, on the theory that at the multiple-DS3 level it is economic to self-deploy. Because we favor competitive deployment as a matter of policy, making dark fiber available on an unbundled basis would undermine the incentives established by our DS3 capacity limitation, because dark fiber can easily be lit at capacity levels exceeding this single DS3 cutoff. We therefore find no impairment for dark fiber loops.

184. We recognize that in some cases, carriers might seek to light dark fiber at capacities that fall below the threshold at which we have determined – based on current deployment – that self-provision of high-capacity loops is economic. We nonetheless believe that a bar on dark fiber loop unbundling is reasonable to ensure appropriate deployment incentives. First, no matter how finely tuned our DS1 and DS3 loop unbundling rules, an overly broad dark fiber unbundling regime would undermine deployment, pushing competitors to use incumbent-owned fiber rather than building their own alternatives where it is economic to do so. Second, where self-deployment and/or competitive wholesale procurement of DS1- and DS3-capacity loops is not economic, such facilities remain available to requesting carriers on an unbundled basis, greatly diminishing the burdens placed on requesting carriers in the absence of unbundled dark fiber loops.[496]

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[492] *See supra* para. 177.

[493] As we found in the *Triennial Review Order*, dark fiber loop construction involves substantial fixed and sunk costs. The primary costs associated with fiber deployment lie in the substantial sunk costs associated with physically laying the fiber cable, rather than with the electronics that must be added to serve customers. *Triennial Review Order* 18 FCC Rcd at 17165, para. 312. Despite these costs, the revenue possibilities of dark fiber are great enough to make self-deployment economic.

[494] *See supra* para. 154; *see also* ALTS *et al.* Comments at 55; QSI Study at 10.

[495] Thus, we reject Alpheus's assertion that operational barriers to loop deployment require a national finding that requesting carriers are impaired without access to dark fiber loops. Alpheus Comments at 33-50. We find that the additional obstacles to fiber deployment cited by Alpheus, including state and local moratoria on trenching of city streets where streets have been resurfaced in the last five years, are more appropriately addressed through enforcement of section 224 of the Act, imposing nondiscriminatory access obligations on incumbent LECs with respect to their poles, ducts, conduits, and rights-of-ways. Alpheus Comments at 35-36. Although we recognize that access through section 224 of the Act does not eliminate all costs associated with construction of new loop plant, we find that the revenue potential of dark fiber is great enough that competitive LECs are not impaired without access to dark fiber loops.

[496] We note that the concerns underlying our blanket refusal to require dark fiber loop unbundling are less salient in the context of dark fiber transport. In the transport context, we have permitted unbundling of up to 12 DS3-capacity (continued....)

185. Although the Commission found in the *Triennial Review Order* that competitive LECs were impaired without access to unbundled dark fiber loops even when they were not impaired without access to unbundled "lit" fiber loops at the OCn level, the D.C. Circuit's direction to make inferences regarding potential deployment leads us to reach a different conclusion here. In conducting its analysis in the *Triennial Review Order*, the Commission differentiated between evidence of deployment of dark fiber loops, defined as unused deployed fiber along a particular customer route that is not associated with a particular customer, and fiber loops at the OCn level, defined as "lit" fiber loops built for a known customer at the time of construction.[497] In light of the court's directive that we draw appropriate inferences regarding potential deployment, we abandon this distinction between dark fiber loops and OCn loops. Because carriers will only construct fiber loops in order to serve customers – and thus will only build to the extent that building "lit" fiber loops would be economic – we infer from evidence submitted into the record regarding deployment of lit OCn, and our prior determination of non-impairment with regard to lit OCn-capacity loops, that carriers are not impaired with regard to dark fiber, which is generally lit at the OCn capacity.[498]

5. Alternative Loop Unbundling Proposals

186. Commenters have proposed various alternatives to the unbundling determinations that we have adopted herein for high-capacity loops. We reject those proposals to the extent that they differ from the conclusions that we reach above.

187. We specifically reject assertions by incumbent LECs that a national "no impairment" finding is appropriate with regard to high-capacity loops because competitors have deployed their own such loops to many buildings. The incumbent LECs ground these claims with lists of "lit" buildings and maps showing competitive fiber deployment in downtown parts of major metropolitan areas.[499] That evidence has little probative value in an impairment analysis for DS1 or DS3 loops. The maps provided by the incumbent LECs do not specify the capacity of service demanded in particular locations along the competitive routes identified; if those locations require capacity only at multiple DS3 or higher capacities, and are providing revenues commensurate with those capacities, then the presence of competitive routes is not relevant to the question whether it is economic to deploy to serve customers at the DS1, or even the single DS3, capacity level. Similarly, as described above, the costs of deployment will depend in part on the length of the lateral that must be constructed between the building being served

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transport UNEs between some wire centers. Thus, it is far more likely that competitive carriers will light dark fiber transport at capacities at or under the applicable cap (*i.e.*, 12 DS3s) than that they would do so at or below the cap applicable to DS3 loops (*i.e.*, a single DS3). In these cases, denial of unbundled access to dark fiber transport would incent greater use of the lit UNE transport DS3s, whereas permitting access to dark fiber transport promotes competitive investment in the requesting carriers' own facilities – *i.e.*, the optronics used to "light" dark fiber. Because we encourage facilities deployment where possible, we thus unbundle dark fiber transport, which is likely to be used at capacities below the relevant cap, whereas we bar all access to dark fiber loops, which are more likely to be lit at capacities beyond the cap and thus to undermine competitive LECs' incentives to construct competitive high-capacity loops where we have determined that construction of such loops is economic.

[497] *Triennial Review Order*, 18 FCC Rcd at 17168, para. 315 n.931.

[498] Alpheus Comments at 39; *see also Triennial Review Order*, 18 FCC Rcd at 17155-56, 17168, paras. 298, 315 n.931 (discussing competitive LECs' deployment of fiber to meet demand for a lit service).

[499] *See, e.g.*, Verizon June 24, 2004 *Ex Parte* Letter, Exh. 5 (providing maps of competitive fiber deployment); SBC Aug. 18, 2004 *Ex Parte* Letter, Attach. (same); BellSouth Oct. 1, 2004 Reynolds *Ex Parte* Letter, Attach. (same).

and the splice point on the fiber ring. The incumbent LECs' maps do not indicate the placement of splice points, rendering evaluation of such costs impossible.

188. Second, the incumbent LECs' maps do not indicate whether carriers operating the fiber depicted are using these facilities to provide local service or merely interoffice transport, long-distance service, wireless service, or some combination of services other than local exchange service. Facilities used to provide these services would likely aggregate very large volumes of traffic, which would confer correspondingly large revenues. The presence of such facilities thus would not speak directly to our impairment inquiry, which must assess whether competitors have found deployment for the provision of *local exchange service* (either alone or in concert with other services) to be economic at the DS1 or DS3 capacities.

189. Third, even if we were able to surmount the weaknesses described above, and could rely on the incumbent LEC maps as evidence that unbundling of high-capacity loops for the provision of local exchange service was inappropriate in some cases, the incumbent LECs have provided no evidence in our record linking those maps to administrable tests allowing for a sufficient degree of geographic nuance. While various maps purport to show competitively deployed fiber in metropolitan areas within major MSAs, they do not indicate sufficiently pervasive deployment to justify an MSA-wide bar on unbundling, and provide no administrable mechanism to establish in which parts of an MSA the incumbent LEC should be required to offer unbundled DS1 and DS3 loops. In these circumstances – particularly where we reject for various reasons the use of an MSA-wide test[500] – the incumbent LEC maps cannot justify any particular approach to unbundling.[501]

190. We also reject incumbent LEC proposals to base "nonimpairment" findings on relatively low business line counts, without assessing the degree of fiber deployment in a wire center serving area. For example, BellSouth proposes that we find impairment for DS3 loops only in wire center service areas including fewer than 5,000 business lines.[502] SBC similarly proposes that we find impairment for DS1 loops only in wire centers serving fewer than 15,000 business lines.[503] While we agree with these incumbent LECs that wire center service areas are useful as proxies for the dense urban areas where economic deployment of fiber facilities can occur, we find that the line counts proposed by BellSouth and SBC are too low to indicate sufficient revenues to justify deployment. As described above, we reject proposals based solely on business line counts because sufficient collocation in the wire center is essential to show that the buildings in the wire center service area are likely within reasonable proximity to alternative fiber networks. We conclude that our tests, which account for both business line counts *and* fiber-based collocation, more accurately identify those markets where fiber can be competitively deployed, and those markets where such fiber is likely to exist such that it can be channelized at lower capacities in an economic manner.

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[500] *See supra* para. 164; *see also supra* para. 82.

[501] As explained above, the incumbent LECs proposed tests based on line counts, not on line density. Thus, while the incumbent LECs' maps indicate the presence of competitive fiber in areas that may remain subject to high-capacity loop unbundling, we note that this fact may be due to high business line *densities* that are not accounted for by the approach advocated by those same incumbent LECs: line counts considered apart from the corresponding land area.

[502] BellSouth Comments at 44.

[503] SBC Comments at 89.

191. The tests proposed by BellSouth and SBC, in contrast, would prohibit unbundling in those areas where competitors are impaired. Whereas wire centers that meet our thresholds for non-impairment with regard to DS3 loops have, on average, over 65,000 business lines and over 10 fiber-based collocators, the class of wire centers satisfying BellSouth's 5,000 line test would have, on average, only about 16,000 business lines and fewer than 2 fiber-based collocators. In fact, three quarters of such wire centers would have three or fewer fiber-based collocators, and almost 40 percent would have none at all. These figures indicate that the wire centers identified by the test BellSouth proposes do not generally exhibit extensive competitive fiber deployment, and do not offer sufficient revenue opportunities to incent such deployment. Thus, competitors seeking to offer DS3-capacity service in these wire centers are not likely to be able to construct short laterals from nearby competitive fiber rings, and remain impaired without access to unbundled DS3 loops. Similarly, the wire centers that meet our thresholds for non-impairment with regard to DS1 loops have, on average, about three times as many business lines and fiber-based collocations as the wire centers that would meet SBC's 15,000 business line cut-off. In the wire centers identified by the test SBC proposes, competitors seeking to offer DS1-capacity service are therefore not likely to be able to rely on extant higher-capacity competitive fiber facilities, and will be unlikely to be able to channelize such facilities for provision of DS1-capacity service. SBC's proposed threshold would therefore bar unbundling in areas other than the central business districts of large urban areas where competitors – *i.e.*, areas where competitors are impaired without unbundled DS1-capacity loops.

192. Verizon argues that there should be no unbundling of DS1 loops in MSAs in which Verizon has qualified for any degree of special access pricing flexibility.[504] As we explained in the *Triennial Review Order*, basing impairment determinations on a pricing flexibility determination is inappropriate because the goal of our pricing flexibility rules is to protect consumers from anticompetitive pricing, while our unbundling rules reflect a different set of statutory goals.[505] The impairment inquiry evaluates the prospects for economic duplication of the facilities at issue or use of alternative (*i.e.*, non-incumbent LEC) offerings. As described above, the pricing flexibility inquiry assess entirely different considerations.[506] Thus, whether or not an incumbent LEC qualifies for pricing flexibility in an MSA has little bearing on whether competitive LECs are impaired in that area without access to DS1 loops in any part of that MSA – much less whether they are impaired (or not) throughout the *entire* MSA. We reiterate that "the presence of a single competitive LEC's collocated transport facility as a trigger for purposes of . . . our pricing flexibility rules, is not sufficient evidence that facilities-based competitive entry into a market at the local loop level is economically feasible."[507]

193. We reject incumbent LECs' assertions that the existence of intermodal competition – particularly from cable providers – in the high-capacity loop market warrants a nationwide finding that

[504] Verizon Comments at 83-85.

[505] *Triennial Review Order*, 18 FCC Rcd at 17182-84, para. 341 ("[B]ecause the special access revenue triggers require only a single collocated competitor to purchase substantial amounts of special access in a concentrated area, this test provides little, if any, indication that even that competitor has been able to widely, if at all, self-deploy alternative loop facilities in that area.").

[506] *See supra* para. 62.

[507] *Triennial Review Order*, 18 FCC Rcd at 17183, para. 341; *see also supra* paras. 155, 164 (rejecting an MSA test for impairment).

competitive LECs are not impaired without access to unbundled high-capacity loops.[508] First, the record before us contains little evidence that cable companies are providing service at DS1 or higher capacities. Although the incumbent LECs attempt to show that cable companies are a significant presence in the enterprise loop market, the record in fact suggests that most of the businesses served by cable companies are not large enterprise customers, but mass market small businesses that would never generate enough traffic to require a high-capacity loop.[509] The record indicates that cable providers are focusing their marketing strategies on residential users and "small and medium businesses . . . that are near the residential network."[510] It is therefore reasonable to infer that most of the businesses that cable companies serve, or are likely to serve, are home offices or very small stand-alone businesses, neither of which typically requires high-capacity loop facilities. In addition, the record suggests that where cable companies do provide service to business customers, they provide cable modem service, rather than service that is comparable to service provided over high-capacity loops.[511] Competitive LEC commenters explain that bandwidth, security, and other technical limitations on cable modem service render it an imperfect substitute for service provided over DS1 loops.[512] Commenters also note that businesses that do require DS1 loops are willing to pay significantly more for them than the cost of a cable modem

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[508] *See, e.g.*, Letter from Jonathan Banks, Vice President-Executive and Federal Regulatory Affairs, BellSouth, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-313, CC Docket No. 01-338 at 2 (filed Nov. 8, 2004); Qwest Reply at 57-64. The record does not indicate that other intermodal options, such as fixed wireless and satellite, offer significant competition in the enterprise loop market. *See, e.g.*, Letter from Praveen Goyal, Assistant General Counsel for Government Affairs, Covad, *et al.*, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-313, CC Docket No. 01-338 at 4-5 (filed Nov. 19, 2004) (noting that there are only 300,000 satellite broadband subscribers nationwide (citing BOC UNE Fact Report 2004 at I-12), and that together satellite and fixed wireless broadband represent less than 2% of the total high-speed lines in service (citing Industry Analysis and Technology Division, Wireline Competition Bureau, *High-Speed Services for Internet Access: Status as of December 31, 2003*, Table 1 (June 2004)); *see also* McLeodUSA Reply at 2-3 (noting that the two competitive LECs that have invested heavily in fixed wireless service have gone bankrupt).

[509] *See, e.g.*, Qwest Reply at 59 (conceding that "[t]here do not appear to be any hard data available concerning the actual number of high-capacity business lines provided by cable operators"). Qwest indicates that the businesses that are primarily served and targeted by cable companies are small-to-medium businesses, most of which have fewer than 20 employees. *Id.* We do not believe, however, that the number of people a business employs is necessarily a reliable indicator of whether that business is likely to require high-capacity services; nor does the number of employees provide a reliable measure for the extent to which cable modem service competes with services provided over high-capacity loops. We therefore decline to draw any conclusions from the employee-based distinctions offered by Qwest.

[510] *See* Qwest Reply at 62 (quoting Cox's description of its business strategy).

[511] *See, e.g.*, Cbeyond Nov. 19, 2004 *Ex Parte* Letter at 2 ("BellSouth's evidence [of competition between cable companies and wireline telephone companies] improperly conflates asymmetrical, relatively low bandwidth Hybrid Fiber Coax ('HFC') services provided over the cable companies' own infrastructure with higher capacity loops and transport which the cable companies can provide over their own facilities only in very limited circumstances."); McLeodUSA Reply at 2 ("Assuming *arguendo* that 'some' estimated number of businesses are using 'some' cable modem services, there is not record evidence that these services are used for anything more than Internet access service or video. Nor is there record evidence that businesses are substituting cable modem service for DS1 and high-capacity telecommunications services that small, medium and large businesses require.").

[512] *See* Cbeyond Nov. 19, 2004 *Ex Parte* Letter at 3-4 (explaining that business customers may find cable modem service undesirable due to limits on bandwidth and upstream capacity, as well as security concerns and service slowdowns due to the shared architecture of hybrid fiber coaxial cable).

connection, which also indicates that the two are not interchangeable.[513] Finally, at least two competitors maintain that, based on their internal data, they rarely lose enterprise customers to cable providers.[514]

194. Second, to the extent that intermodal providers are serving enterprise customers at the DS1 or higher capacity, the impairment analysis we adopt today for high-capacity loops will account for that competition. For example, as with our dedicated transport test, our reliance on fiber-based collocation captures intermodal competitors' facilities, including those using fixed-wireless and cable facilities, which often collocate in at least some locations.[515] Further, as we explained in our discussion of dedicated interoffice transport, our impairment analysis is designed to assess revenue opportunities, and denies unbundling based in part on those opportunities regardless of whether they will be seized by wireline competitive LECs or intermodal competitors.[516] Thus, our tests for high-capacity loops will recognize collocation by intermodal providers, as well as the revenue opportunities available to such providers, and each will contribute toward a finding of "no impairment."

D. Transition Plan

195. Because we remove significant high-capacity loop unbundling obligations formerly placed on incumbent LECs, as described above, we find it prudent to establish a plan to facilitate the transition from UNEs to alternative loop options.[517] Specifically, we adopt a twelve-month plan for competing carriers to transition to alternative facilities or arrangements, including self-provided facilities, alternative facilities offered by other carriers, or tariffed services offered by the incumbent LEC. As discussed below, we find it is appropriate to adopt a longer, eighteen-month, transition plan for dark fiber loops. These transition plans shall apply only to the embedded customer base, and do not permit competitive LECs to add new high-capacity loop UNEs pursuant to section 251(c)(3) where the Commission has determined that no section 251(c) unbundling requirement exists.

196. We believe it is appropriate to adopt a longer transition period for DS1 and DS3 loops than the six-month transition period that was proposed in the *Interim Order and NPRM*, because we find that the twelve-month period provides adequate time for both competitive LECs and incumbent LECs to perform the tasks necessary to an orderly transition, including decisions concerning where to deploy,

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[513] *See* ALTS *et al.* Comments at 33; McLeodUSA Reply at 2.

[514] NuVox, for example, states that only a tiny fraction of its customer losses between January and October 2004 were to cable companies, and even those may have been to wireline competitive LEC affiliates. NuVox Nov. 22, 2004 *Ex Parte* Letter at 3-5. Cbeyond similarly asserts that very few telephone numbers have been ported from Cbeyond to a cable company or vice versa. Cbeyond Nov. 19, 2004 *Ex Parte* Letter at 4. None of the BOCs provide comparable numbers indicating how many enterprise customers they have lost to cable providers. Qwest, for example, indicates that it has lost lines to Cox in Omaha, but those losses are to the circuit-switched telephony service offered by Cox's competitive LEC affiliate, rather than to its cable operation. Qwest Reply at 50.

[515] *See supra* para. 95.

[516] *See id.*

[517] To the extent that a particular high-capacity loop no longer subject to unbundling pursuant to section 251(c)(3) has been used as part of an EEL, our existing rules governing conversions and commingling apply. *See Triennial Review Order*, 18 FCC Rcd at 17348-50, paras. 585-89 (conversions); *id.* at 17342-48, paras. 579-84 (commingling).

purchase, or lease facilities.[518] Consequently, carriers have twelve months from the effective date of this Order to modify their interconnection agreements, including completing any change of law processes. At the end of the twelve-month period, requesting carriers must transition all of their affected high-capacity loops to alternative facilities or arrangements.[519]

197. Because incumbent LECs generally do not offer dark fiber loops as a tariffed service regulated under sections 201 and 202 of the Act,[520] and because it may take time for competitive LECs to negotiate IRUs or other arrangements with incumbent or competitive carriers, we find that a more lengthy transition plan is warranted for transitioning carriers from the use of unbundled dark fiber to alternative facilities.[521] Thus, as in the case of dark fiber transport,[522] we adopt an eighteen-month transition period for dark fiber loops.[523] We expect that the extra time is necessary to permit carriers the time necessary to migrate to alternative fiber arrangements, including self-deployed fiber.

198. We adopt the *Interim Order and NPRM*'s proposal regarding transition pricing of unbundled high-capacity loops for which the Commission determines that no section 251(c) unbundling requirement exists. Thus, during the relevant transition period, any high-capacity loop UNEs that a competitive LEC leases as of the effective date of this Order, but for which the Commission determines that no section 251(c) unbundling requirement exists, shall be available for lease from the incumbent LEC at a rate equal to the higher of (1) 115 percent of the rate the requesting carrier paid for the loop element on June 15, 2004, or (2) 115 percent of the rate the state commission has established or establishes, if any, between June 16, 2004 and the effective date of this Order, for that loop element.[524] We believe that the moderate price increases help ensure an orderly transition by mitigating the rate shock that could be suffered by competitive LECs if TELRIC pricing were immediately eliminated for these network elements, while at the same time, these price increases, and the limited duration of the transition (which will require current UNE purchasers to more quickly make new service arrangements), provide significant protection of the

[518] *See, e.g.*, ALTS *et al.* Comments at 70-72 & n.113 (discussing the steps carriers must take to transition away from unbundled incumbent LEC transmission facilities).

[519] We recognize that some high-capacity loops with respect to which we have found impairment may in the future meet our thresholds for non-impairment. For example, as competition grows, competitive LECs may construct new fiber-based collocations in a wire center that currently has more than 38,000 business lines but 3 or fewer collocations. In such cases, we expect incumbent LECs and requesting carriers to negotiate appropriate transition mechanisms through the section 252 process.

[520] *See* 47 U.S.C. §§ 201, 202.

[521] Alpheus Comments at 57; Alpheus Reply at 29.

[522] *See supra* para. 144.

[523] Thus, for dark fiber loops, carriers have eighteen months from the effective date of this Order to modify their interconnection agreements, including completing any change of law processes. At the end of the eighteen-month period, requesting carriers must transition the affected dark fiber loop UNEs to alternative facilities or arrangements.

[524] *Interim Order and NPRM*, 19 FCC Rcd at 16797-99, para. 29. These prices apply to DS1, DS3, and dark fiber loops. To the extent that a state public utility commission order raises some rates and lowers others for high-capacity loops, the incumbent LEC may adopt either all or none of these high-capacity loop rate changes. High-capacity loops no longer subject to unbundling shall be subject to true-up to the applicable transition rate upon the amendment of the relevant interconnection agreements, including any applicable change of law processes.

interests of incumbent LECs in those situations where unbundling is not required.[525] Of course, the transition mechanism adopted here is simply a default process, and pursuant to section 252(a)(1), carriers remain free to negotiate alternative arrangements superseding this transition period. The transition mechanism also does not replace or supersede any commercial arrangements carriers have reached for the continued provision of high-capacity loop facilities or services.

VII. MASS MARKET LOCAL CIRCUIT SWITCHING

A. Summary

199. We reexamine incumbent LECs' obligations to unbundle mass market local circuit switching in light of the D.C. Circuit's vacatur of our previous rules. In particular, we have revised our approach to impairment pursuant to *USTA II*'s instruction to draw appropriate inferences about potential competition in one market from evidence of competitive deployment in another market. Applying the court's guidance to the record before us, we impose no section 251 unbundling requirement for mass market local circuit switching nationwide.[526] We conclude, based on the record here, and the reasonable inferences we draw from it, that competitive LECs not only have deployed a significant, growing number of their own switches, often using new, more efficient technologies such as packet switches, but also that they are able to use those switches to serve the mass market in many areas, and that similar deployment is possible in other geographic markets. Additionally, we find that the BOCs have made significant improvements in their hot cut processes that should better situate them to perform larger volumes of hot cuts ("batch hot cuts") to the extent necessary.[527] We find that these factors substantially mitigate the *Triennial Review Order*'s stated concerns about circuit switching impairment. Moreover, regardless of any limited potential impairment requesting carriers may still face, we find that the continued availability of unbundled mass market switching would impose significant costs in the form of decreased investment incentives, and therefore we conclude not to unbundle pursuant to section 251(d)(2)'s "at a minimum" authority. Finally, we adopt a transition plan that requires competitive LECs to submit orders to convert their UNE-P customers to alternative arrangements within twelve months of the effective date of this order. This transition period shall apply only to the embedded customer base, and does not permit competitive LECs to add new customers using unbundled access to local circuit switching. During the twelve-month transition period, which does not supersede any alternative arrangements that carriers voluntarily have negotiated on a commercial basis, competitive LECs will continue to have access to UNE-P priced at TELRIC plus one dollar until the incumbent LEC successfully migrates those UNE-P

[525] *See id.* at 16799, para. 30.

[526] Competitive LECs have used unbundled local circuit switching exclusively in combination with incumbent LEC loops and shared transport in an arrangement known as the unbundled network element platform (UNE-P).

[527] A hot cut is a largely manual process requiring incumbent LEC technicians to manually disconnect the customer's loop, which was hardwired to the incumbent LEC switch, and physically re-wire it to the competitive LEC switch, while simultaneously reassigning (*i.e.*, porting) the customer's original telephone number from the incumbent LEC switch to the competitive LEC switch. *Triennial Review Order*, 18 FCC Rcd at 17266, para. 465 n.1409. Since the *Triennial Review Order* was adopted, major users of UNE-P, such as AT&T, have announced that they are abandoning that method of entry into the mass market in favor of alternatives such as VoIP, thus reducing the likely volume of hot cuts required in the absence of unbundled local circuit switching.

customers to the competitive LECs' switches or to alternative access arrangements negotiated by the carriers.[528]

B. Background

200. In prior orders addressing the unbundling of network elements, the Commission concluded that incumbent LECs must provide access to unbundled local switching and defined the switching element to include "line-side facilities," "trunk-side facilities," and all the features, functions, and capabilities of the local circuit switch.[529] As noted above, competitors have used unbundled local circuit switching exclusively in combination with incumbent LEC loops and shared transport in an arrangement known as the unbundled network element platform (UNE-P).[530] In contrast, requesting carriers that do not rely on incumbent LEC switching generally obtain unbundled local loops (UNE-L) from incumbent LECs and connect these loops to their own switches.[531]

201. In the *Triennial Review Order*, the Commission concluded that, in the DS1 enterprise market, competitive LECs generally will not be afforded unbundled switching, but allowed states to petition the Commission in cases in which they found that this general nationwide finding did not apply.[532] In reviewing that decision, the D.C. Circuit observed that "the CLECs do not contradict the Commission's observation about the absence of evidence of impairment either nationwide or in specific

[528] Because this Order modifies our unbundling framework and adopts new rules applicable to unbundled local switching, we dismiss as moot the petition for reconsideration filed on October 2, 2003 by NASUCA that asked the Commission to reconsider various aspects of the impairment standard and unbundled local switching rules adopted in the *Triennial Review Order*. *See* National Association of State Utility Consumer Advocates Petition for Reconsideration, CC Docket Nos. 01-338, 96-98, 98-147 (filed Oct. 2, 2003).

[529] *See Local Competition Order*, 11 FCC Rcd at 15706, para. 412. We retain the *Triennial Review Order*'s definition of local circuit switching to encompass line-side and trunk-side facilities, plus the features, functions, and capabilities of the switch, which was not challenged in the D.C. Circuit or in this proceeding. *Triennial Review Order*, 18 FCC Rcd at 17245-46, para. 433; 47 C.F.R. § 51.319(c)(1). We likewise readopt here the definitions of "operator services" and "directory assistance" set forth in the *UNE Remand Order*, and readopted in the *Triennial Review Order*. *Triennial Review Order*, 18 FCC Rcd at 17246, para. 433 n.1326 (citing *UNE Remand Order*, 15 FCC Rcd at 3892, para. 443). To the extent that unbundling of shared transport, signaling, and call-related databases were contingent upon the unbundling of local circuit switching in the *Triennial Review Order*, the availability of those elements on an unbundled basis continue to rise or fall with the availability of unbundled local circuit switching. *See Triennial Review Order*, 18 FCC Rcd at 17319-20, 17323-34, paras. 533-34, 542-60.

[530] *Triennial Review Order*, 18 FCC Rcd at 17245, para. 431.

[531] *Id.* UNE-L describes an entry mode where a competitive LEC combines unbundled loops procured from the incumbent LEC with the competitive LEC's own switching and transport network.

[532] *Id.* at 17258-63, paras. 451-58.

markets," and upheld these enterprise switching rules.[533] Likewise, the Commission concluded that competitive LECs were not impaired without unbundled access to packet switching.[534]

202. With respect to mass market local circuit switching, the Commission found that competitive LECs faced impairment on a national basis arising from the "hot cut" process used to transfer a customer's loop from one LEC to another. However, the Commission asked the state commissions to evaluate particular circumstances of markets within their jurisdictions, and authorized them to rebut our nationwide impairment findings in state proceedings on the basis of actual and potential competitive deployment.[535] In particular, the Commission instructed the states to define the relevant geographic markets for purposes of this analysis, to establish a cutoff between the "mass market" and "enterprise market" for users with multiple DS0 lines, to establish batch hot cut processes, and to evaluate the usefulness of temporary, or "rolling," access to unbundled local circuit switching.[536]

203. On appeal, the D.C. Circuit vacated the rules that allowed states to conduct impairment analyses, as well as the Commission's national finding of impairment for mass market switching.[537] The court concluded that section 251(d)(2) of the Act requires the Commission itself to make the ultimate unbundling determinations necessary to establish the rules required under section 251(d)(1), and thus rejected the Commission's decision to confer upon the states final rulemaking authority.[538] In the absence of those granular state proceedings, the court also rejected the Commission's national impairment finding, particularly in light of evidence that hot cut costs in some areas appeared low enough to facilitate competitive entry and in light of prior Commission evaluations of the adequacy of incumbent LEC hot cut processes.[539] The court also provided guidance for the Commission's general unbundling analysis, including several observations relevant to our remand analysis of mass market local circuit switching, requiring us, for example, to weigh the investment disincentives associated with unbundling.[540] In the *Interim Order and NPRM*, the Commission sought comment on, among other things, whether it should retain the unbundling requirement for local circuit switches serving the mass market, in light of the *USTA II* decision and any other changed circumstances.[541]

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[533] *USTA II*, 359 F.3d at 586-87. Although the D.C. Circuit upheld our enterprise switching rules and, consequently, they are not at issue here, *see id.*, we believe that our analysis here with respect to mass market local circuit switching would be likely to apply equally to DS1 enterprise switching.

[534] *Triennial Review Order*, 18 FCC Rcd at 17321-22, paras. 537-39. The Commission's finding regarding packet switching was not challenged in the D.C. Circuit.

[535] *Id.* at 17263-77, 17290-310, paras. 459-75, 493-520.

[536] *Id.* at 17826-88, paras. 487-90 (batch hot cut processes); *id.* at 17291-94, paras. 495-97 (defining the market); *id.* at 17310-12, paras. 521-24 (rolling use); *id.* at 17293-94, 17312-13, paras. 497, 525 (enterprise market cut-off for multi-line DS0 customers).

[537] *USTA II*, 359 F.3d at 564-71.

[538] *Id.* at 564-68.

[539] *Id.* at 569-71.

[540] *Id.* at 572-73.

[541] *Interim Order and NPRM*, 19 FCC Rcd at 16788-90, paras. 8-13.

C. Mass Market Unbundling Analysis

204. Based on the evidence of deployment and use of circuit switches, packet switches, and softswitches, and changes in incumbent LEC hot cut processes, we determine not only that competitive LECs are not impaired in the deployment of switches, but that it is feasible for competitive LECs to use competitively deployed switches to serve mass market customers throughout the nation. Further, regardless of any potential impairment that may still exist, we exercise our "at a minimum" authority and conclude that the disincentives to investment posed by the availability of unbundled switching, in combination with unbundled loops and shared transport, justify a nationwide bar on such unbundling. Nor do we find that other factors, not relied upon in the *Triennial Review Order* impairment analysis, warrant unbundling of mass market local circuit switching.

1. Scope of Geographic Markets Reached By Competitive Switches

205. In conducting our impairment analysis, we begin by considering evidence of competitive LEC circuit switch deployment, which is the best indicator of whether competitive LECs have been able to overcome barriers to entry with respect to facilities deployment. We find that the record demonstrates significant nationwide deployment of switches by competitive providers. Because our examination of switching investment shows no significant variation in switch deployment throughout the country, we adopt a national approach to local circuit switching.

206. As the Commission found in the *Triennial Review Order*, there has been a significant increase in competitive LEC circuit switch deployment over time, growing approximately 71 percent from 700 switches in 1999 to approximately 1,200 switches in 2003.[542] Incumbent LEC data indicate that competitive carriers are serving over 3 million mass market lines with those switches.[543] Further, pursuant to our "reasonably efficient competitor" standard, we consider competitive LECs' deployment of newer, more efficient switching technologies, such as packet switches.[544] Incumbent LECs cite evidence that, in the time following the *Triennial Review Order*, competitive LECs have focused on

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[542] BOC UNE Fact Report 2004 at II-37. In addition, the record reveals that competitive switches are deployed not only in the densest urban areas, but in a range of less densely populated areas as well. *See, e.g.*, SBC Comments at 40 and n.118 (citing evidence of competitive switch deployment in "Springfield (Illinois); Seguin (Texas); Mojave (California); Lenexa (Kansas); Mishawaka (Indiana); Appleton (Wisconsin); and numerous other small towns"); Verizon Comments, Attach. J at 7-8 (citing examples of carriers serving mass market customers using competitive switches in low-density (fewer than 5,000 access lines) wire centers within the Boston, Massachusetts MSA, the Worcester, Massachusetts MSA, the Pittsburgh, Pennsylvania MSA, and the Providence, Rhode Island MSA).

[543] BOC UNE Fact Report 2004 at II-42. Various parties question the accuracy and usefulness of the data cited by the incumbent LECs. *See, e.g.*, Dialog Reply at 8; PACE *et al.* Reply at 6-7. It nonetheless is clear both that a significant number of competitive switches have been deployed nationwide, and that those switches are being used to serve some mass market customers. Moreover, as we discuss below, we find that competitive LECs generally are not impaired in their ability to serve mass market customers using competitive switches, regardless of the precise number of mass market customers being served using competitive switches today. Thus, our conclusions here do not rely on any specific numbers regarding the extent of competitive switch deployment.

[544] The Commission has defined "packet switching capability" as "'routing or forwarding packets, frames, cells or other data units based on address or other routing information contained in the packets, frames, cells or other data units' as well as the functions performed by DSLAMs." *Triennial Review Order*, 18 FCC Rcd at 17320, para. 535. Packet switches can be used to provide advanced services to all classes of customers, such as xDSL services. *UNE Remand Order*, 15 FCC Rcd at 3835-36, para. 307.

deploying softswitch technology and packet switches.[545] These switches are less expensive than traditional circuit switches and are more scalable.[546] This evidence indicates that competitive LECs are not impaired in the deployment of competitive switches. As discussed below, we also find that competitive LECs are able to use switches, once deployed, to serve the mass market.

207. D.C. Circuit precedent instructs us to infer the absence of impairment "where the element in question – though not literally ubiquitous – is significantly deployed on a competitive basis."[547] We find, based on the evidence in this record, that the fact that competitive LECs are able to serve larger geographic areas using self-provided switches mitigates to some extent the incumbent LECs' advantages of scale.[548] Competitive LECs are able to serve larger geographic areas because they can deploy higher capacity switches and use dedicated transport in combination with those switches to serve customers throughout a wider geographic area, beyond the particular wire center where the switch is located.[549] Thus, even though competitive circuit switches are not deployed as ubiquitously as incumbent LEC circuit switches, this does not prove that competitive LECs are impaired in wire centers where there currently are no competitive switches, as competitive LECs can and do serve such areas using switches located in other areas. In addition, pursuant to the "reasonably efficient competitor" standard discussed above, we evaluate impairment based on the technology a reasonably efficient competitive LEC would deploy.[550] Competitive LECs can rely on newer, more efficient technology than incumbent LECs (whose networks have been deployed over decades), such as packet switches.[551] Further, the ability of

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[545] BOC UNE Fact Report 2004 at II-37 through 38. BOC data states that as of year-end 2003, competitive LECs had deployed more than 8,700 packet switches.

[546] *Id.* For example, "[s]oftswitches offer two major advantages over conventional switches: cost and capabilities. They are less expensive to buy, take up less space, use less power and are easier to program and maintain." R. Poe, Next-Generation Switching Gives Power to Small Players, America's Network (June 1, 2004), cited in *id.* at II-37 n.194.

[547] *USTA I*, 290 F.3d at 422 (quoted by *USTA II*, 359 F.3d at 574); *see also supra* paras. 22, 41-45). While the Commission has recognized that competitive deployment is the best evidence of the lack of impairment, the absence of such deployment does not, in itself, demonstrate impairment. The Commission thus declines to adopt approaches that would require unbundling of switching in markets that do not *already* have a significant number of competitive switches deployed. *See, e.g.*, MCI Comments at 103-19; Texas Office of Public Utility Council *et al.* Comments at 13-14; NASUCA Comments at 23; Utah Committee of Consumer Services Comments at 14-16; ACN Reply at 2-3, 4-5; New Jersey Ratepayer Advocate Reply at 11, 19-20, 37-44, 55-58; PACE *et al.* Reply at 41-42.

[548] *See, e.g.*, MCI Comments at 103-19; Texas Office of Public Utility Council *et al.* Comments at 13-14; NASUCA Comments at 23; Utah Committee of Consumer Services Comments at 14-16; ACN Reply at 2-3, 4-5; New Jersey Ratepayer Advocate Reply at 11, 19-20, 37-44, 55-58; PACE *et al.* Reply at 41-42; *Triennial Review Order*, 18 FCC Rcd at 17282, para. 482.

[549] *See Triennial Review Order*, 18 FCC Rcd at 17010, para. 42; *see also* Qwest Comments at 54; Verizon Comments at 105; SBC Comments at n.130; Letter from Susan P. Kennedy, Commissioner, California Public Utilities Commission, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, WC Docket No. 04-313 at 5 (filed Oct. 18, 2004) (Commissioner Kennedy Oct. 18, 2004 *Ex Parte* Letter).

[550] *See supra* Part IV.A.

[551] Packet switches are newer, cheaper, and easier to deploy than traditional circuit switches. *See supra* para. 206. Moreover, in contrast to other network elements, such as loops or transport, switches have a significant capacity at a relatively small cost per customer and are not inherently linked to the service provided to any particular customer.

competitive circuit switches to serve wider geographic regions reduces the direct, fixed cost of purchasing circuit switching capability and allows competitive carriers to create their own switching efficiencies.[552]

208. Our conclusion that competitive LECs can deploy and use competitive switches is supported by the evidence of competitive LECs employing UNE-L strategies. The BOCs submit evidence demonstrating that competitive LECs are providing service using competitive switching, in combination with unbundled incumbent LEC loops, to serve mass market customers in at least 137 of the top 150 MSAs.[553] The New York DPS also states that, in New York alone, there are 20 wire centers with three or more competitive LEC switches serving residential customers.[554] Other state proceedings also revealed the presence of competitive LECs serving the mass market using self-provided switches.[555] Indeed, the notion that all requesting carriers need access to UNE-P to serve the mass market is belied by the fact that GCI, Knology, FDN Communications, Cavalier Telephone, McLeodUSA, and others compete using UNE-L strategies.[556]

209. In light of this evidence of successful entry using UNE-L strategies, we disagree with competitive LECs that claim that a requesting carrier needs access to unbundled local circuit switching in the early stages of entry when it may not have enough customers to achieve economic switch utilization rates.[557] As a general matter, these commenters inappropriately focus this aspect of their impairment analyses on the fully allocated cost to serve a particular wire center with a competitive switch. We made findings above regarding the higher capacity and wider geographic reach capable from competitive switches, we previously have found that competitive LECs can deploy and use packet switches and deploy and use local circuit switches to serve the enterprise market, and we observe below the BOCs' improvements to their hot cut processes. In light of these findings, the proper inquiry thus is whether the incremental costs and obstacles associated with using these switches to serve the mass market give rise to

[552] PAETEC Comments at 3 (describing its use of a Class 5 switch to provide service to neighboring LATAs); *see also, e.g.*, BellSouth Comments at 20; SBC Comments at 42; Verizon Comments at 105-06; Qwest Comments at 54. For example, Verizon states that the average reach of competitive switches in the Boston MSA is over 40 miles. Verizon Comments at 106. BellSouth submitted evidence that a single switch in Tennessee was being used to provide service in six states in BellSouth's territory as well as four other out-of-region states. BellSouth Comments, Attach. 1 at 12; *see also, e.g.*, BellSouth Comments, Attach. 1 at 12-14 (discussing the geographic reach of competitive switches); SBC Reply at 72 (citing statements by MCI that it is able to serve large geographic areas from a single switch).

[553] BOC UNE Fact Report 2004 at II-42.

[554] New York DPS Comments at Attach. 2.

[555] *See, e.g.*, Maryland PSC Comments, Attach. 4 at 14 (staff evaluation for purposes of the Maryland nine month proceedings); California PUC *et al.* Comments, Attach. at 66 (staff evaluation for purposes of the California nine month proceedings); Texas Office of Public Utility Council *et al.* Comments at 38, 47 (citing Texas data).

[556] ACS Comments at 9 (discussing UNE-L competition in Alaska from GCI); BellSouth Comments at 18-19 (discussing UNE-L competition from Knology and FDN Communications); Qwest Comments at 54 (discussing UNE-L competition from McLeod and Cavalier).

[557] *See, e.g.*, PACE Coalition *et al.* Comments at 72-75; Dialog Comments at 11-12; Ionary *et al.* Comments at 8.

impairment.[558] As discussed in greater detail below, we do not find as a general matter that such incremental costs or obstacles give rise to impairment for a reasonably efficient competitor. Consequently, we find that even such transitional access to unbundled local circuit switching is unnecessary.

2. Hot Cuts

210. On remand, in light of changed circumstances and guidance received from the D.C. Circuit, we find no impairment arising from the hot cut process for the majority of mass market lines. The Commission's prior impairment finding for mass market local circuit switching in the *Triennial Review Order* was based solely on operational and economic impairment arising from the hot cut process.[559] The Commission found that hot cuts gave rise to operational impairments, due to the disruptions in service experienced by end-user customers, and due to concerns about the ability of incumbent LEC hot cut processes to handle the necessary volumes of hot cuts.[560] The Commission further concluded that the need for hot cuts gave rise to economic impairment based on non-recurring costs (NRCs) paid to incumbent LECs to perform a hot cut.[561] We find that the new hot cut processes developed by each of the BOCs significantly address these difficulties. Particularly in light of these new, improved hot cut procedures, we conclude that commenters' concerns largely are speculative and, in light of D.C. Circuit precedent, do not support a finding of impairment for mass market local circuit switching. Moreover, regardless of any limited potential impairment from hot cuts or other sources, we find that the continued availability of unbundled mass market switching would impose significant costs in the form of decreased investment incentives, and we therefore determine not to unbundle that network element pursuant to section 251(d)(2)'s "at a minimum" authority.

211. The record indicates that many incumbent LECs are developing further improvements to their hot cut process, through the development of batch hot cut procedures. For example, each of the BOCs has developed a batch hot cut process allowing for a competitive LEC to have multiple customer lines converted to competitive LEC networks within a short time.[562] Qwest's batch hot cut process

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[558] *See, e.g.*, Verizon Reply, Attach. I, Reply Declaration of Jeffrey H. Rohlfs and Joseph H. Weber (Verizon Rohlfs/Weber Reply Decl.), Exh. 1 at 8 (critiquing MCI's switching impairment model for considering full allocated costs on a wire center basis in evaluating whether it is economic to deploy a switch to serve the mass market, rather than considering only incremental costs, and noting, for example, the lower per-customer switching and transport costs when those costs are shared among enterprise and mass market customers); SBC Reply at 71-72 (same); BellSouth Reply at 12 (criticizing competitive LECs' switching impairment proposals for focusing on wire centers, rather than broader geographic areas); BellSouth Reply, Attach. 8, Reply Affidavit of Pamela A. Tipton (BellSouth Tipton Reply Aff.) at 4-5 (asserting that already-deployed competitive switches are sufficient to meet the demand associated with serving existing UNE-P customers); GCI Comments at 8 (noting that "the increment costs of adding traffic to [GCI's] own switches and transport facilities is negligible").

[559] *Triennial Review Order*, 18 FCC Rcd at 17277, para. 476.

[560] *Id.* at 17265-72, paras. 466-69.

[561] *Id.* at 17272-74, paras. 470-71.

[562] Letter from Glenn T. Reynolds, Vice President – Federal Regulatory, BellSouth, to Marlene H. Dortch, Secretary, FCC, CC Docket No. 01-338, Attach. at 6-14 (filed Aug. 5, 2004); *see also* Qwest Comments at 49; SBC Comments at 58; Verizon Comments at 113-14. Moreover, we note that while non-BOC incumbent LECs are subject to section 251(c)(3) unbundling, section 251(f) exempts many such carriers from section 251(c)(3)'s requirements. Indeed, the BOCs and carriers exempted from unbundling obligations by section 251(f) have (continued....)

(BHCP) enables it to process between 25 and 100 hot cuts of stand-alone unbundled analog loops per day in a central office.[563] Qwest's BHCP can provision Integrated Digital Loop Carrier (IDLC) systems in batches of up to 40 per day per state.[564] SBC's "Enhanced Daily Process" places no limitations on the number of local service requests that a competitive LEC may submit.[565] Its "Defined Batch Process" allows competitive LECs to order up to 100 hot cuts per day per central office with a standard provisioning interval under two weeks, resulting in 20-25 hot cuts per hour.[566] A "Bulk Projects" process is available for projects with 100 or more lines. BellSouth has also added features to its batch hot cut process that allow after-hours and weekend hot cuts.[567] BellSouth's hot cut process also allows for cut overs of both DS0 EELs and DS0 loops served via IDLC.[568] Verizon likewise has both "batch" and "large job" hot cut processes, which the New York DPS approved, and found would allow Verizon to "scale up its hot cut activities" even assuming that "Verizon will be required to increase its hot cut activity dramatically."[569] In light of these new procedures, we cannot conclude that the hot cut processes will be insufficiently scalable to handle those lines that are transitioned from UNE-P to UNE-L arrangements. Rather, any inadequacies in carriers' hot cut performance can be addressed through enforcement of interconnection agreements and, in the case of BOCs, complaints pursuant to section 271(d)(6).[570]

212. We find that these batch hot cut processes also help address concerns about service disruptions. In particular, some of these new batch hot cut processes offer competing carriers the ability

(Continued from previous page)
approximately 97.5% of all incumbent LEC access lines. *Triennial Review Order*, 18 FCC Rcd at 17388, para 660. Thus, we anticipate that the great majority of migrations occurring pursuant to the transition plan set forth below will involve carriers whose hot cut processes we expressly approved in section 271 proceedings, and which have implemented batch cut processes that help limit any operational and economic difficulties associated with individualized hot cuts.

[563] Qwest Comments at 49.

[564] *Id.*

[565] SBC Comments at 58.

[566] *Id.*

[567] Bellsouth Comments at 32.

[568] *Id.* at 31.

[569] Order Setting Permanent Hot Cut Rates, *Proceeding on Motion of the Commission to Examine the Process and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basis*, Case 02-C-1425 at 59, 62 (N.Y. DPS Aug. 25, 2004) (*New York Hot Cut Order*), *cited in* Verizon Comments at 113. We note, in contrast, that Verizon's ability to perform the necessary volumes of hot cuts in New York was a particular concern in the *Triennial Review Order*. 18 FCC Rcd at 17272, para. 469. Some states only initiated batch hot cut proceedings in response to the *Triennial Review Order*, and have not completed those proceedings. We emphasize, however, that regardless of the status of the state proceedings, each of the BOCs has adopted batch hot cut processes throughout its territory and has based its advocacy with regard to unbundled mass market local switching on the continued availability of these processes.

[570] 47 U.S.C. § 271(d)(6).

to schedule hot cuts outside of normal business hours.[571] This increased flexibility provides the potential to reduce the risk that any delays or disruptions will come during a time of day when they are likely to be observed by mass market customers.

213. Further, the record reveals that these batch hot cut processes have lower NRCs. For example, the New York DPS has approved Verizon's new batch hot cut processes, adopting hot cut NRCs far below the $185 per line cited in the *Triennial Review Order*.[572] Region-wide, BellSouth offers a batch hot cut process at a ten percent discount off of the applicable state-established hot cut NRC to account for the efficiencies gained by using a batch process.[573] Qwest has also instituted a batch hot cut process that is available at prices below the TELRIC rates set by state commissions for individual hot cuts.[574] SBC has implemented a variety of enhancements to its hot cut processes that will result in lower hot cut NRCs.[575] Thus, on the basis of this record, we find that the costs to have hot cuts performed have decreased in many regions since the *Triennial Review Order* was adopted.[576]

214. While some commenters propose modifications to further improve these processes, we nonetheless conclude that these new hot cut procedures, as described by the BOCs, constitute significant steps that sufficiently respond to our concerns about the potential for scalability of hot cuts.[577] Similarly,

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[571] For example, Qwest designed its batch hot cut process to "perform [the physical cut over of the loops] in the[] early morning hours," as early as 3 a.m., to ensure "little or no disruption to the end users [sic] service and [to permit technicians to work] on frames in an efficient manner with little to no traffic on them." Qwest Comments, Attach. 1 at 35. BellSouth is in the process of adding new hot cut features including after hours and weekend hot cuts. *See* BellSouth Comments at 31-32. SBC also offers extended business hours during which hot cuts can be performed. *See* Kansas Commission Comments at 17. As part of Verizon's "project" process for large volumes of hot cuts, loops included in the project are typically cut over after normal business hours." *New York Hot Cut Order* at 16.

[572] Specifically, the New York Department set rates as follows: for a basic 2-wire line, $42.36 for the initial line and $29.42 for each additional line; for a basic 4-wire line, $69.60 for the initial line and $45.09 for each additional line; for each line in a "large job" hot cut, $33.84 for the initial line and $27.92 for each additional line; and for each line in a "batch" hot cut, $28.17 for the initial line and $23.72 for each additional line. *New York Hot Cut Order*.

[573] BellSouth Reply at 24; *see also* BellSouth Comments at 34.

[574] Qwest Comments at 50. In most Qwest states, per-line batch hot cut rates are 11.5% to 16.8% less than the individual hot cut rates. Qwest Reply at 85.

[575] SBC Comments at 58-59.

[576] Supra indicates that currently, in Florida, at a hot cut rate of $59.31, the break-even point for POTS customers is reached approximately after the seventh month of service. Supra Comments at 18. In the *Triennial Review Order*, the Commission cited evidence that competitive LECs expects to keep any particular customer for up to 18-24 months. *Triennial Review Order*, 18 FCC Rcd at 17274, para. 471 (citing evidence from Z-Tel). In the current record, MCI asserts that the average customer is retained for 10 to 20 months, although Verizon contends that this is significantly understated. *See* MCI Comments, Declaration of Michael Pelcovits (MCI Pelcovits Decl.), Exh. 2 ; Verizon Rohlfs/Weber Reply Decl., Exh. 1 at 6. While these data do not, standing alone, prove that competitive LECs never face economic hot cut impairment due to non-recurring charges, the data do demonstrate that it would be inappropriate to reach a nationwide finding of impairment on the basis of hot cut NRCs.

[577] *See, e.g.*, MCI Comments at 57-59; McLeod Comments at 31-35; AT&T Comments at 169-175; *but see* SBC Reply at 84 (citing statements by Z-Tel that "it 'feels comfortable' with a UNE-L strategy because of the 'progress being made on hot cut economics and performance over the past year'").

we note that several BOCs have undergone third-party testing of their new batch hot cut processes,[578] and, as stated above, Verizon's process was approved by the New York DPS.[579] In addition, concerns about hot cut processes that are only newly developed are fundamentally speculative in nature.[580] Moreover, as the D.C. Circuit observed in *USTA II*, the Commission has evaluated the BOCs' hot cut performance for purposes of evaluating their applications to provide in-region long distance service subject to section 271, and ultimately found that performance to be sufficient to demonstrate checklist compliance for each BOC in each relevant state. These evaluations specifically addressed, and confirmed, each BOC's ability to adapt its practices and capabilities to meet changes in demand.[581] Commenters also have not affirmatively demonstrated that hot cut performance in other states is somehow inadequate.[582] We thus reject unbundling of switching based on commenters' speculative concerns about the adequacy of hot cut processes.

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[578] Qwest Comments at 53 (citing Hitachi Consulting's testing of its batch hot cut processes); BellSouth Comments at 33 (citing PriceWaterhouseCoopers' testing of its batch hot cut processes).

[579] Verizon Comments at 113 (citing *New York Hot Cut Order*); *see also supra* para. 211.

[580] SBC Reply at 81-83; MCI Comments at 71-74 (speculating about potential problems with directory listings and number porting); WorldNet Comments at 15-16 (speculating about possible hot cut shortcomings based on the incumbent's lack of past hot cut experience); Puerto Rico Telecommunications Regulatory Board Reply at 4 (same). While the Commission may evaluate impairment by making reasonable inferences from the facts in the record, it may not impose unbundling on the basis of purely speculative concerns. *See, e.g., Iowa Utilities Board*, 525 U.S. at 391-92 ("Section 251(d)(2) does not authorize the Commission to make isolated exemptions from some underlying duty to make all network elements available. It requires the Commission to determine on a rational basis *which* network elements must be made available, taking into account the objectives of the Act and giving some substance to the 'necessary' and 'impair' requirements."); *see also, e.g., USTA II*, 359 F.3d at 570; *USTA I*, 290 F.3d at 425-26.

[581] *See Federal Communications Commission Authorizes Qwest to Provide Long Distance Service in Arizona; Bell Operating Companies Long Distance Application Process Concludes; Entire Country Authorized for "All Distance" Service*, News Release (Dec. 3, 2003). We thus reject impairment claims, such as those raised by MCI, that are little more than a "rehashing of complaints the CLECs made during the state and federal 271 filings." BellSouth Reply, Attach. 6 at 11-12 (observing that the loop make-up information concern raised by MCI was cited and rejected in each of BellSouth's section 271 proceedings); *see also* SBC Reply at 83-84 ("[T]he Commission's 49 separate 271 findings that existing processes were sufficient to provide CLECs a meaningful opportunity to compete (and were scalable to meet increased demand) plainly rebut MCI's arguments about 'garden-variety' hot cuts.") (footnote omitted). As we stated repeatedly in the context of those proceedings, the appropriate mechanism for addressing such concerns are state commission enforcement processes or section 208 complaints to this Commission. *See, e.g., Application by Qwest Communications International Inc. for Authorization to Provide In-Region, InterLATA Services in Arizona*, WC Docket No. 03-194, Memorandum Opinion and Order, 18 FCC Rcd. 25504, 25535, para. 57 (2003).

[582] As we note above, we anticipate that the great majority of migrations occurring pursuant to the transition plan set forth below will involve carriers whose hot cut processes we expressly approved in section 271 proceedings, and which have implemented batch cut processes that help limit any operational and economic difficulties associated with individualized hot cuts. *See supra* note 562. Although we recognize that only the BOCs were required under section 271 to submit hot cut performance results, commenters also have not affirmatively demonstrated that hot cuts by other, non-BOC, incumbent LECs, are somehow inadequate. *See, e.g.*, WorldNet Comments at 15-16, 19 (expressing concern about Puerto Rico Telephone Company's potential hot cut performance, despite the fact that they have not yet requested any hot cuts).

215. Our reliance on our findings of sufficient hot cut performance in the section 271 process coupled with our reliance on recent improvements to these processes to ensure their scalability are buttressed by the fact that, as a practical matter, we no longer expect that requesting carriers will seek cut overs at the levels we anticipated in the *Triennial Review Order*.[583] For example, the record indicates that many competitors are choosing to rely on intermodal alternatives to the loop, obviating the need for hot cuts.[584] Alternatively, some mass market competitors are providing voice service using IP technologies that rely on existing broadband facilities, including some existing carriers such as AT&T, which have had a significant share of competitively-served mass market customers.[585] Similarly, Vonage, a new entrant, already serves more than 200,000 consumers and small businesses with its VoIP service.[586] Moreover, several carriers have entered into commercial agreements with incumbent LECs establishing arrangements similar to the UNE-P, again limiting the need for hot cuts, and we expect more carriers will enter into such agreements.[587] Accordingly, the current record indicates that hot cuts and the barriers associated with hot cuts are of diminishing significance to competition in the mass market.

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[583] *See, e.g.*, Verizon Comments at 111-12; SBC Reply at 66.

[584] *Id.* In the *Triennial Review Order*, the Commission undertook an analysis of the state of intermodal competition as part of the local circuit switching impairment inquiry. *Triennial Review Order*, 18 FCC Rcd at 17251-53, paras. 443-46. While we need not conduct a full analysis of mass market intermodal competition at this time, because we independently find that requesting carriers are not impaired without access to unbundled mass market switching, and that a consideration of investment incentives also supports our decision not to unbundle that element, we nonetheless observe the growing potential sources of intermodal competition for the limited purpose discussed here. *See Triennial Review Order*, 18 FCC Rcd at 17295, para. 499 n.1549 (noting the possibility that, in particular markets, intermodal alternatives might be available that are comparable in cost, quality and maturity to incumbent LEC services).

[585] AT&T Comments at i; BOC UNE Fact Report 2004 at II-9.

[586] *Vonage Activates 200,000th Line*, Press Release (July 13, 2004) *available at http://www.vonage.com/corporate/press_index.php?PR=2004_07_13_0* ("Vonage, the leading broadband telephony provider, today announced the activation of 200,000 total lines on its network, doubling its subscriber-base in less than six months since reaching the 100,000 line mark."); *see also* Covad Comments at 34 (stating that Vonage serves more than 100,000 consumers and small businesses); *Vonage Becomes First Broadband Telephony Provider To Activate 100,000 Lines*, Press Release (Feb. 2, 2004) *available at http://www.vonage.com/corporate/press_index.php?PR=2004_02_02_0* ("Vonage Continues to Lead the Broadband Telephony Industry as it Reaches the Milestone of 100,000 Consumer and Small Business Lines in Service").

[587] *See, e.g.*, MCI, *MCI and Qwest Reach Commercial Agreement for Wholesale Services*, Press Release (May 31, 2004), *available at http://global.mci.com/news/news2.xml?newsid=10710&mode=long&lang=en&width=530&langlinks=off*; SBC, *SBC, Sage Telecom Reach Wholesale Telecom Services Agreement*, Press Release (Apr. 3, 2004), *available at http://www.sbc.com/gen/press-room?pid=5097&cdvn=news&newsarticleid=21080*; *BellSouth in Deals with Four Carriers; CLEC Group Cries Foul on Deadline*, TR DAILY (May 5, 2004) (describing BellSouth's commercial agreements with ABC Telecom, INET, KingTel, and WebShoppe); BellSouth, *BellSouth Signs Contracts for Long-Term Commercial Agreements with Three Wholesale Carriers*, Press Release (Apr. 29, 2004), *available at http://bellsouthcorp.com/proactive/newsroom/release.vtml?id=45448* (describing BellSouth's commercial agreements with Dialogica Communications Inc., International Telnet, and CI2); Verizon, *Verizon and Granite Telecommunications Sign Binding Letter of Intent for Commercial Agreement on Wholesale Services*, Press Release (June 15, 2004), *available at http://newscenter.verizon.com/proactive/newsroom/release.vtml?id=85517*; Verizon, *Verizon Entering Into Commercial Agreement With A Wholesale Customer*, Press Release (June 18, 2004), *available at http://newscenter.verizon.com/proactive/newsroom/release.vtml?id=85593* (describing Verizon's commercial (continued....)

216. We also note that concerns about incumbent LECs' ability to convert the embedded base of UNE-P customers in a timely manner are rendered moot by the transition period we adopt in this Order.[588] Specifically, under the transition we adopt, and as described in further detail below, competitive LECs must submit orders within twelve months to convert their embedded UNE-P customer base to UNE-L or another arrangement. However, within that twelve-month period, incumbent LECs must continue providing access to mass market unbundled local circuit switching at a rate of TELRIC plus one dollar for the competitive LEC to serve those customers until the incumbent LECs successfully convert those customers to the new arrangements.

217. We also disagree with MCI's suggestion that other operational barriers associated with specific hot cut scenarios, such as those involving conversions from UNE-P to EELs or UNE-P to UNE-L line splitting, preclude competition in the absence of unbundled mass market switching.[589] First, although MCI suggests that hot cuts involving EELs are unavailable, the record belies that assertion. Specifically, the evidence before us indicates that MCI has not yet requested such hot cuts from incumbent LECs, and, moreover, that incumbent LECs are willing to provide such hot cuts.[590] Second, regarding the UNE-P to UNE-L line splitting scenario, MCI expresses concerns about the processes used by a limited number of incumbent LECs, primarily SBC. However, the Commission has chosen to encourage parties to use state collaboratives to work out the processes necessary to support line splitting, which we believe is a better approach to addressing such concerns than requiring unbundled access to mass market switching.[591]

218. In addition to these concerns, which go directly to the Commission's consideration of operational factors of impairment, the Commission also finds that even if some limited impairment might exist in some markets, we would decline to require unbundling of mass market local circuit switching pursuant to our "at a minimum" authority, based on the investment disincentives that unbundled local

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agreement with Sterling Telecommunications); *Verizon Reaches Tentative Pact with CLEC for Network Access*, TR DAILY (Apr. 23, 2004) (describing Verizon's commercial agreement with DSCI); *Wireline*, COMMUNICATIONS DAILY (May 19, 2004) (describing Verizon's commercial agreement with InfoHighway).

[588] *See infra* paras. 226-28.

[589] *See, e.g.*, MCI Comments at 60-61. We note that some commenters also raise concerns about access to IDLC loops. *See, e.g., id.* at 59; GCI Comments at 8, 13-15. Fundamentally, however, these commenters' arguments do not relate to impairment with respect to local circuit switching, but rather, seek to justify access to UNE-P as a remedy for impairment with respect to the IDLC loops themselves. GCI Comments at 21. A review of the unbundling requirements associated with mass market loops generally, or IDLC loops in particular, is beyond the scope of issues we address in the present Order, and thus access to IDLC loops continues to be governed by the rules adopted in the *Triennial Review Order*, and upheld in *USTA II*. *Triennial Review Order*, 18 FCC Rcd at 17154, para. 297; *USTA II*, 359 F.3d at 582-83.

[590] *See, e.g.*, Verizon Reply, Attach. G, Reply Declaration of Thomas Maguire (Verizon Maguire Reply Decl.) at paras. 13-16; BellSouth Comments at 32.

[591] Such collaborative processes are ongoing in SBC's region. *See, e.g., Application By SBC Communications Inc., Michigan Bell Telephone Company, and Southwestern Bell Communications Services, Inc. for Authorization to Provide In-Region, InterLATA Services in Michigan*, WC Docket No. 03-138, Memorandum Opinion and Order, 18 FCC Rcd 19024, 19102-04, paras. 137-40 (2003).